



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,493	03/07/2002	Yuusuke Takamoto	381NT/44743TCO	2343

7590 01/28/2003

CROWELL & MORING, L.L.P.
P.O. Box 14300
Washington, DC 20044-4300

[REDACTED] EXAMINER

VANAMAN, FRANK BENNETT

ART UNIT	PAPER NUMBER
3618	

DATE MAILED: 01/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/091,493

Applicant(s)

Takamoto et al.

Examiner

Vanaman

Art Unit

3618



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on Nov 12, 2002

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) Claim(s) 2, 3, and 5-13 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 2, 3, and 5-13 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on 11/12/02 is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)

4) Interview Summary (PTO-413) Paper No(s). _____

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

6) Other: _____

Art Unit: 3618

Status of Application

1. Applicant's amendment, filed 11/12/2002 has been entered in the application. Claims 2, 3, 5-13 are pending, claims 1 and 4 having been canceled, claims 12 and 13 having been added.

Claim Rejections - 35 USC § 112

2. Claims 2, 3, 5-7 and 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 2, line 3, the phrase "for driving the vehicle body when a brake pedal is depressed" appears contradictory; in claim 12, lines 5-6, it is not clear what is meant by "change information of motor position"; in claim 13, line 9, it is not entirely clear what is meant by a "present maximum holding time" (note claims 5 and 6 recite a "preset maximum holding time"-- either the term "preset maximum holding time" lacks a clear antecedent basis in claims 5 and 6, or claim 13 should be amended to change "present" to --preset--).

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 2, 9, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Takamoto et al. (US 5,467,275). Takamoto et al. teach an electric vehicle having a body (1) and a motor (3) which drives vehicle wheels and which may further be used to hold the vehicle in a stopped position (col. 1, lines 59-63) even when pressure on a brake pedal is released, and having a first means (314/315) for calculating a torque (τ_0) which corresponds to a brake operation quantity (b*) measured by a depression of the brake pedal (Xb) and a second means (311/313) which provides a positional control and torque instruction (τ_p) which is fed to the motor to maintain the stopping position, wherein for a preset period corresponding to the time between an operator removing pressure from a brake pedal and applying pressure to an accelerator pedal, the constant

Art Unit: 3618

positional control remains active (while Sp=ON; note col. 5, lines 21-27), and further where an option is provided such that under operation of a switch (913) the vehicle is allowed to move a distance from the held position and again stopped (note col. 12, lines 7-18).

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 3, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takamoto et al. Takamoto et al. teach an electric vehicle having a body and a motor which drives vehicle wheels and which may further be used to hold the vehicle in a stopped position even when pressure on a brake pedal is released, and having a first means for calculating a torque which corresponds to a brake operation quantity measured by a depression of the brake pedal and a second means which provides a positional control and torque instruction which is fed to the motor to maintain the stopping position, wherein for a preset period corresponding to the time between an operator removing pressure from a brake pedal and applying pressure to an accelerator pedal, the constant positional control remains active, and further where an option is provided such that under operation of a switch the vehicle is allowed to move a measured distance from the held position and again stopped. The reference of Takamoto et al. fails to teach the operation of a switch which allows the motion of the vehicle through a measured distance as associated with the application of pressure to the brake pedal, or the removal and subsequent application of pressure to the brake pedal.

Hands-free control of vehicle functions aside from steering is generally well known, and as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the actuation of the measured distance moving function in association with the vehicle brake pedal, active under the condition that the positional control mode is in operation (i.e., only

Art Unit: 3618

when Sp=ON), to allow control of this function without the need for the driver to remove his or her hands from the steering wheel.

7. Claims 5, 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takamoto in view of Hotta (US 5,934,398, filed 08/1996). The reference of Takamoto et al. is discussed above and fails to teach the holding torque applied by the motor to hold the vehicle position as being reduced after a time period. Hotta teaches a vehicle motor control system for driving a motor (11) which determines a stopped state of the motor (71), for example while holding on a hill (col. 5, lines 38-52) and calculates a time period (72, 73) after which the current supplied to the motor is decreased (61) for preventing degradation of or damage to the switching transistors (21-26). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a timer and motor current (and thus motor torque) limiting device as taught by Hotta to the vehicle of Takamoto et al. for the purpose of preventing damage to the motor controller of Takamoto et al., for example while holding a constant position for a lengthy time period.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takamoto as modified by Hotta as applied to claim 6 above, and further in view of Takahashi et al. (US 6,006,144, filed 08/1996). The references of Takamoto et al. and Hotta are discussed above and fail to teach the provision of an alarm for signaling the motor torque decrease. Takahashi et al. teach a vehicle control system provided with an alarm (10) for indicating an unanticipated condition associated with the vehicle driving condition. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an alarm as taught by Takahashi et al. to the vehicle of Takamoto et al. as modified by Hotta for the purpose of alerting the user to the decrease in motor torque, in order to allow the user to activate another braking system (such as a friction brake) to prevent unanticipated vehicle motion.

Art Unit: 3618

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takamoto et al. in view of Hotta and Siepker (US 5,916,062, filed 07/1997). The references of Takamoto et al. and Hotta are discussed above and fail to teach a hydraulic brake pressure device for holding the vehicle in a stopped position upon the decrease of holding torque delivered by the motor. Siepker teaches a hill-holding device which determines a braking pressure required to hold a vehicle in a stopped position and applies a corresponding braking force through a vehicle's existing hydraulic braking system (note col. 1, lines 54-58; col. 2, lines 19-28) by an independent actuating element separate from the user-operated brake pedal circuit. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an independent actuator as taught by Siepker for actuating an existing friction braking system of the vehicle of Takamoto et al. as modified by Hotta, the independent actuator responsive to the operation of the current limiting device as taught by Hotta, for the purpose of providing a braking force from a source separate from the motor, such that during a reduction of motor torque due to overheating of the control transistors, the vehicle may remain stopped without user intervention, rendering the holding process transparent to the operator.

Response to Arguments

10. Applicant's comments have been carefully considered. As regards the argument concerning the value τ_0 in Takamoto et al., the examiner has not suggested that this value is used as a command for holding the vehicle at a stopped position. Note the rejection above (and as set forth in the previous office action), and Takamoto et al.'s specification which refers to the stopping torque instruction as τ_p and not τ_0 .

Applicant's comments concerning power savings and specified time values are noted, however these comments appear to be directed to features which are not positively recited in the claims to the breadth that they have been argued. Although the claims are interpreted in light of

Art Unit: 3618

the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that the references must explicitly provide a suggestion for combining, a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference (see *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)), with skill being presumed on the part of the artisan, rather than the lack thereof (see *In re Sovish* 769 F.2d 738, 742, 226 USPQ 771, 774 (Fed. Cir. 1985)); further, references may be combined although none of them explicitly suggests combining one with the other (see *In re Nilssen* 7 USPQ2d 1500 (Fed. Cir. 1989)).

Please further note the following from Section 2144 of the MPEP: "The rationale to modify or combine the prior art does not have to be expressly stated in the prior art or it may be reasoned from knowledge generally available to one of ordinary skill in the art, established scientific principles, or legal precedent...The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem...It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by Applicant." Also Chief Judge Nies writes in a concurring opinion, "While there must be some teaching, reason, suggestion, or motivation to combine existing elements to produce the claimed device, it is not necessary that the cited references or the

Art Unit: 3618

prior art specifically suggest making the combination...In sum, it is off the mark for litigants to argue, as many do, that an invention cannot be held to have been obvious unless a suggestion to combine prior art teachings is found in a specific reference". See *In re Oetiker* 977 F.2d 1443, 24 USPQ.2d 1443 (Fed.Cir.1992).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 3618

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to F. Vanaman whose telephone number is (703) 308-0424. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-1113.

Any response to this action should be mailed to:

Assistant Commissioner for Patents
Washington, DC 20231

or faxed to :

(703) 305-3597 or 305-7687 (for formal communications intended for entry;
informal or draft communications may be faxed to the same number but should be
clearly labeled "UNOFFICIAL" or "DRAFT")

The Office has also established electronic fax servers for Technology Center 3600 as follows:

703-872-9326 (Official communications)
703-872-9327 (Official After Final communications)
703-872-9325 (Customer Service)

F. VANAMAN
Primary Examiner
Art Unit 3618

F. Vanaman
January 24, 2003



A handwritten signature in black ink, appearing to read "F. VANAMAN" followed by the date "1/24/03".